

What is Claimed is:

1. An apparatus for supporting a substrate, comprising:
a cover ring comprising a base having a bore disposed therethrough, the base having an upper surface and one or more raised surfaces disposed adjacent the bore, wherein the raised surface comprise one or more first substrate support members disposed adjacent an edge of the bore; and
a capture ring disposed on the cover ring, the capture ring comprising a semi-circular annular ring having an inner perimeter corresponding to the bore of the cover ring and one or more second substrate support members disposed on the inner perimeter and adapted to receive a substrate, wherein the capture ring is adapted to mate with the cover ring and form one contiguous raised surface on the cover ring.
2. The apparatus of claim 1, wherein the one or more raised surfaces disposed adjacent the bore comprise a first and second raised surfaces with the first raised surface comprising a linear raised surface extending a length of one side of the bore and the second raised surface comprising an arcuate outer diameter radial with the cover ring and an inner perimeter conforming to one or more sides of the bore.
3. The apparatus of claim 2, wherein the bore is a rectangular shape and the one or more raised surfaces are disposed on at least opposing sides of the bore.
4. The apparatus of claim 3, wherein the first raised surface is disposed substantially on one side of the bore and the second raised surface is disposed on the opposite side and partially disposed on two adjacent edges.
5. The apparatus of claim 1, wherein the one or more second substrate support members of the capture ring are disposed on opposite sides of the inner perimeter.

6. The apparatus of claim 1, wherein the one or more first and second substrate support members comprise an upper portion, a lower portion, and at least a partial tapered portion disposed between the upper portion and the lower portion.
7. The apparatus of claim 6, wherein the lower portion has an inclined surface between about 2° and about 7°.
8. The apparatus of claim 7, wherein the lower portion has an inclined surface of about 2.5°.
9. The apparatus of claim 1, wherein the cover ring further comprises one or more lift pin recesses adapted to receive one or more lift pins.
10. The apparatus of claim 1, wherein the capture ring and the cover ring comprise an etch resistant material.
11. The apparatus of claim 1, wherein the capture ring and the cover ring comprise aluminum oxide.
12. The apparatus of claim 1, wherein the cover ring is adapted to be mounted on a pedestal.
13. A processing chamber, comprising: ✓
 - an enclosure defining a process region; and
 - a pedestal disposed in the enclosure, the pedestal comprising:
 - a support surface;
 - a cathode disposed in the support surface;
 - a cover ring coupled to the support surface, the cover ring comprising a cover ring comprising a base having a bore disposed therethrough, the base having an upper surface and one or more raised surfaces disposed adjacent

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the bore, wherein the raised surface comprise one or more first substrate support members disposed adjacent an edge of the bore; and

a capture ring disposed on the cover ring, the capture ring comprising a semi-circular annular ring having an inner perimeter corresponding to the bore of the cover ring and one or more second substrate support members disposed on the inner perimeter and adapted to receive a substrate, wherein the capture ring is adapted to mate with the cover ring and form one contiguous raised surface on the cover ring.

14. The processing chamber of claim 13, wherein the one or more raised surfaces disposed adjacent the bore comprise a first and second raised surfaces with the first raised surface comprising a linear raised surface extending a length of one side of the bore and the second raised surface comprising an arcuate outer diameter radial with the cover ring and an inner perimeter conforming to one or more sides of the bore.

15. The processing chamber of claim 14, wherein the bore is a rectangular shape and the one or more raised surfaces are disposed on at least opposing sides of the bore.

16. The processing chamber of claim 15, wherein the first raised surface is disposed substantially on one side of the bore and the second raised surface is disposed on the opposite side and partially disposed on two adjacent edges.

17. The processing chamber of claim 13, wherein the one or more second substrate support members of the capture ring are disposed on opposite sides of the inner perimeter.

18. The processing chamber of claim 13, wherein the one or more first and second substrate support members comprise an upper portion, a lower portion, and

at least a partial tapered portion disposed between the upper portion and the lower portion.


19. The processing chamber of claim 18, wherein the lower portion has an inclined surface between about 2° and about 7°.

20. The processing chamber of claim 13, wherein the pedestal further comprises one or more lift pins for vertically displacing the cover ring.

21. The processing chamber of claim 13, wherein the cover ring further comprises one or more lift pin recesses adapted to receive one or more lift pins.

22. The processing chamber of claim 13, wherein the capture ring and the cover ring comprise an etch resistant material.

23. The processing chamber of claim 13, wherein the capture ring and the cover ring comprise aluminum oxide.

24. A substrate processing system, comprising: 
a transfer chamber;
at least one processing chamber having a pedestal comprising:
a support surface having lift pins displaceable therethrough;
a cathode disposed in the support surface;
a cover ring coupled to the support surface, the cover ring comprising:
a cover ring comprising a base having a bore disposed therethrough, the base having an upper surface and one or more raised surfaces disposed adjacent the bore, wherein the raised surface comprise one or more first substrate support members disposed adjacent an edge of the bore; and
a capture ring disposed on the cover ring, the capture ring comprising a semi-circular annular ring having an inner perimeter

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corresponding to the bore of the cover ring and one or more second substrate support members disposed on the inner perimeter and adapted to receive a substrate, wherein the capture ring is adapted to mate with the cover ring and form one contiguous raised surface on the cover ring;

one or more loadlock chambers; and

a substrate handler disposed in the transfer chamber.

25. The processing chamber of claim 24, wherein the one or more raised surfaces disposed adjacent the bore comprise a first and second raised surfaces with the first raised surface comprising a linear raised surface extending a length of one side of the bore and the second raised surface comprising an arcuate outer diameter radial with the cover ring and an inner perimeter conforming to one or more sides of the bore.

26. The processing chamber of claim 25, wherein the bore is a rectangular shape and the one or more raised surfaces are disposed on at least opposing sides of the bore.

27. The processing chamber of claim 26, wherein the first raised surface is disposed substantially on one side of the bore and the second raised surface is disposed on the opposite side and partially disposed on two adjacent edges.

28. The processing chamber of claim 24, wherein the one or more second substrate support members of the capture ring are disposed on opposite sides of the inner perimeter.

29. The processing chamber of claim 24, wherein the one or more first and second substrate support members comprise an upper portion, a lower portion, and at least a partial tapered portion disposed between the upper portion and the lower portion.

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30. The processing chamber of claim 29, wherein the lower portion has an inclined surface between about 2° and about 7° (2.5°).
31. The processing chamber of claim 24, wherein the pedestal further comprises one or more lift pins for vertically displacing the cover ring.
32. The processing chamber of claim 24, wherein the cover ring further comprises one or more lift pin recesses adapted to receive one or more lift pins.
33. The processing chamber of claim 24, wherein the capture ring and the cover ring comprise an etch resistant material.
34. The processing chamber of claim 24, wherein the capture ring and the cover ring comprise aluminum oxide.